Update Bulletin No. 845

Jim Dulley

Thank you for your interest in writing to me about lawn mowers. My personal preference is a cordless, rechargeable battery mower. I have used cordless mower for the past eight years at my own home (1/2-acre lot). They offer many advantages over a gasoline mower - less noise, lower operating cost, no pollution, etc. The only drawback to them is the higher weight since they are not self-propelled.

The photo to the right shows several models that I have tested. Pictured from left to right are the 24-volt B&D, gasoline Toro Personal Pace, 2-stroke LawnBoy and the Friendly Robotics in front. I use the 24-volt B&D model at my own home most of the time. It is sturdily built, smooth and quiet. During the damp spring when the grass is very heavy and growing fast, I have to recharge the battery before I am completely done. During the summer and fall, one charger will easily do the entire yard.

The Neutron battery model has a lot of nice accessories and features and has a six-month risk free trial. It is a small mower (only a 14-inch wide cutting area - the B&D is 19 inches) and is marketed heavily to the elderly. Since is it small, lightweight and does not require pulling a rope to start it like a gasoline model, it is ideal for the elderly. It is really a nice model for anyone with a smaller yard.

For a self-propelled gasoline mulching mower, the Toro Personal Pace design with a variable gearbox is very convenient to use and easy to start. It always moves at the pace you're walking. Overhead valve (OHV) gasoline engines operate cleaner than older style side-valve (L-heads) engines. If you need to get a gasoline lawn mower, the OHV design is the best choice even though it costs a little more.

I tested the Friendly Robotics Robomower at my own home and I saw the Husqvarna Auto Mower being used at Joe Gibbs' racing facility. The Robomower is built solidly and is user-friendly. I was impressed with how quiet it operates with the three small blades. You just drive it out into your yard, let it cut the grass, and then drive it back into your garage to charge up the battery. The Auto Mower is totally automatic and even finds the recharging station itself.

You can find prices of gasoline mowers locally. There is always a sale and with so many gas models, I won't attempt to list the prices here.

Jim

Some typical suggested retail prices:

Black & Decker — 24-v rechargeable battery mower CMM1000 - $510 at Sears

Husqvarna — Auto Mower - $1,500 plus professional installation fees

Country Home Products — Nueton - $349, trimmer option - $80

Lawn Grass Selector Guide

Agrostis canina — Velvet Bentgrass
region* - cool season | type - creeping | exposure** - FS, S
mowing height - ½ to 1 inch | planting time - early fall or spring | seeding rate*** - 2 lbs. | soil - moist
description - Thick, fine-textured turf. Not drought resistant.

Axonopus affinis — Carpet Grass
region - warm season | type - creeping | exposure - FS, PS
mowing height - 1 to 2 inches | planting time - spring | seeding rate - 1 to 3 lbs. | soil - wet, sandy
description - Coarse, low-maintenance. Requires frequent mowing when seed heads are present. Low tolerance to freezes.

Buchloe dactyloides — Buffalo Grass
region - warm season | type - creeping | exposure - FS, PS
mowing height - 1½ to 2½ inches | planting time - early spring | seeding rate - 1 to 2 lbs. | soil - dry
description - This grass requires a dry climate.

***Cynodon dactylon* sp.** — Bermuda Grass
region - warm season | type - creeping | exposure - FS
mowing height - 1 to 1½ inches | planting time - spring | seeding rate - 2 lbs., sod | soil - well drained
description - Resistant to drought. Very vigorous and spreading grass.

Eremochloa ophiuroides — Centipede
region - warm season | type - creeping | exposure - FS, S
mowing height - 1 to 1½ inches | planting time - spring | seeding rate - ½ lbs., sprigs | soil - well drained
description - Grows good with little care. Turns brown and dormant in the winter.

Festuca arundinacea — Tall Fescue
region - transitional | type - tufting | exposure - FS, PS
mowing height - 2 to 3 inches | planting time - early fall or spring | seeding rate - 6 to 8 lbs. | soil - well drained
description - Coarse leaves. Low maintenance.

Festuca rubra — Fine Fescue
region - cool season | type - creeping | exposure - FS, PS
mowing height - 1½ to 2½ inches | planting time - early spring or fall | seeding rate - 5 lbs. | soil - acidic
description - Slow growing with fine, stiff leaves.

Lolium perenne — Perennial Ryegrass
region - cool season | type - tufting | exposure - FS, PS
mowing height - 1 to 2½ inches | planting time - early spring or fall | seeding rate - 4 to 6 lbs. | soil - well drained
description - Fast growing grass. Valuable addition to cool-season seed mixes.

Poa pratensis — Bluegrass
region - cool season | type - creeping | exposure - FS, S, PS
mowing height - 1½ to 2½ inches | planting time - early spring or fall | seeding rate - 2 lbs. | soil - loamy
description - Becomes dormant in drought conditions. Dense grass with nice appearance.

Stenotaphrum secundatum — St. Augustine
region - warm season | type - creeping | exposure - FS, Sh
mowing height - 1½ to 2½ inches | planting time - spring | seeding rate - sod, sprigs, plugs | soil - sandy
description - Requires high fertilization. Coarse texture and vigorous growth.

***Zoysia* sp.** — Zoysia Grass
region - warm season | type - creeping | exposure - FS, S
mowing height - ½ to 1½ inches | planting time - spring to summer | seeding rate - sod, sprigs, plugs | soil - sandy
description - Thick, stiff, fine-textured grass. Requires a lot of maintenance.

Region — Cool-season grasses thrive in mild weather, withstand cold winters, drought and high temperatures - good for Northern states • Transitional supports both cool- and warm-season grasses - good for Mid-Atlantic states westward to central California. • Warm-season grasses thrive in hot weather and become dormant when temperatures drop below 55°F - good for Southern States. * *Exposure: FS — Full Sun, PS — Part Shade, Sh — Full Shade, S — Sun ***Seeding Rate is per 1000 square feet.

Selected Manufacturers of Efficient Lawn Mowers

Manufacturer	Model	Power Source	Engine*	Horsepower	Drive Speed	Cutting Width	Mulch Side Rear	Cutting Height (inches)**	Weight (pounds)
AMERICAN LAWN MOWER CO. PO Box 369 Shelbyville, IN 46176 (800) 633-1501 (317) 392-3615 www.reelin.com	Price Leader	manual reel	n/a	n/a	push	14"	rear	0.5 - 1.7	19
	Economy Line							0.5 - 1.5	29
	Full Feature					16"		0.5 - 2.2	25
	Deluxe Lite							0.5 - 2.5	
	Scotts Classic					20"		1.0 - 3.0	34
	7-Blade					16"		0.5 - 2.2	27
Features - There are several different models with 4-, 5- or 7-blade selections for the best possible cut for many different turf types. The variable height adjustments also accommodate a wide variety of turf conditions. The locking bed knife blade adjustment allows precise settings for a clean cut. The ball bearing assembly assures easy rolling action. Reel mowers do not tear or rip the grass. The clean, even scissor-cut of a reel mower seals the grass blade, holding moisture and keeping out disease organisms. Yields a natural mulch by dispersing clippings in a fine spray (no clumping) that decomposes quickly. An added benefit — pushing a reel mower burns as many calories per hour as tennis, downhill skiing and low-impact aerobics. For an average 150 lb. person, that's 400 to 450 calories. Reel mowers don't have engines which means they don't produce emissions or noise. No fuel in means no pollutants out. No air pollution. No noise pollution. These mowers have low maintenance — no engine means no tune-up / repairs, no gas, no oil, no spark plugs. Simply brush them off occasionally, spritz the blades with WD-40 and sharpen them every other season. There is a do-it-yourself sharpening kit available.									
BLACK & DECKER CORP. 701 E. Joppa Rd. Towson, MD 21286 (800) 544-6986 www.blackanddecker.com	MM575	electric	n/a	n/a	push	18"	side	1 - 3.5	41
	MM675			n/a		18"	mulch	0.7 - 3.5	46
	MM875			n/a		19"	mulch/rear	1.2 - 3.5	49
	CMM1000	battery		n/a		19"	mulch/rear	1.5 - 3.5	76
Features - The “CMM1000” has a one touch, spring loaded height adjustment system — all four wheels are adjusted with the touch of a lever. It has folding handle tubes so it requires less storage space. It is a 3-in-1 mower — mulch, rear bag or side discharge (chute sold separately). It is ideal for up to a 1/3 acre lot. It operates on a 24-volt battery. The rechargable mowers recharge up to 70% in 4 hours and 100% overnight. The lawn mowers have a rust-proof polymer deck that is covered by a 5-year warranty. The "MM675" has a flip-over handle to reverse cutting directions. The "MM875" has a rear bag.									
Country Home Products P.O. Box 25 Vergennes, VT 05491 (800) 865-0784 wwwmynewtron.com	Nueton	battery	n/a	n/a	push	14"	mulch/rear	1.5 - 3.5	48 33 without battery
Features - The Nuetron battery mower with only a 14-inch cutting width and is designed for small yards and it is lightweight. It is ideal for condos or for the elderly who want to use a lightweight mower and don't want to have to worry about starting a gasoline mower. It comes with a rear bag if you choose to catch the clippings. It also has a trimmer/edger attachment option that extends off the front of the mower for hard-to-reach places. The push handle folds up and the entire mower can be stored on end against a wall. I comes with a six-month no-risk trial guarantee.									
FRIENDLY ROBOTICS 1414 W. Walnut Hill Lane Irving, TX 75038 (888) 404-7626 www.friendlyrobotics.com	Robomower	battery	n/a	n/a	automatic	21"	mulch	0.7 - 3.0	50
Features - A perimeter wire is installed at the lawn edge, around trees and flower beds to create a boundary loop. The mower will automatically cut the grass because the special program allows it to negotiate and mow around obstacles. And because it mows in a triangular pattern from many different directions, it'll cut any lawn, regardless of its geometric shape. In automatic mode, a fully charged mower can typically mow a lawn of 2500 sq. ft. It is powered by two sealed batteries. The sensitive bumpers recognize solid obstacles and change direction upon touching them. A drop off mechanism automatically stops the blades if the front end of the mower is lifted upward. There is a low noise level of only 85 decibels. The operating time is 2 hours on average. The blade speed is 5,800 rpm. It takes approximately 24 hours to charge the unit. There are three blades that cut 6" beyond the wheels. The dimensions of the mower are 12.4 inches tall, 35 inches long and 26 inches wide. There are 6 different settings that adjust the cutting height anywhere from 1.5 to 3 inches. But if you prefer a more close-cropped look, a blade for a much lower height of cut (.75 to 2 inches) is offered as an accessory.									
HUSQVARNA 9006 Perimeter Woods Dr. Charlotte, NC 28216 (800) 438-7297 www.husqvarna.com	64 NovoCut	manual reel	n/a	n/a		16"	rear	0.5 - 2.2	19
	Royal 53S	gasoline	OHV	6.75 hp	self-propel	21"	mulch/rear	1.0 - 3.2	123
	55R21HV		OHV	5.5 hp				1.0 - 3.5	100
	5521B21HV								
	5521CH								
	5521CM				push				77
	Auto Mower	battery	n/a	n/a	automatic	21"	mulch	1.2 - 3.7	15.6
Features - The brain of the “Auto Mower” is a built-in circuit board with a microprocessor. There is a boundary loop and a recharging loop that carry a low voltage current. The mower moves around the lawn, cutting in a random pattern within the boundary wire. The boundary loop wire defines the cutting area while the search loop wire directs the mower to the charging station. The boundary loop is also laid out around trees and surfaces of the lawn which will not be cut. When the battery is low (after approx. 1.5 hours) it seeks out the recharging loop and is lead to a docking station where the battery is recharged — which takes about 1 hour. The docking station is connected to an ordinary outlet. It works well on lawns up to approximately 19,000 sq. ft. with a relatively level terrain or with sloping areas of less than 20 degrees. It has 2 independently driven geared wheel motors. The “55 Series” mowers are three-in-one mowers. With the turn of a wrench the rear-bagger mowers become side-discharge mowers. The removal of the rear bag turns each of the mowers into mulchers. The self-propelled drive allows for variable speeds from zero to four miles per hour. The Royal 53S is the top of the line model.									

** It is not unusual for mower manufacturers to change engine types without changing model numbers, ** Cutting Height — Inches have been rounded off*

Selected Manufacturers of Efficient Lawn Mowers

Manufacturer	Model	Power Source	Engine*	Horsepower	Drive Speed	Cutting Width	Mulch Side Rear	Cutting Height (inches)**	Weight (pounds)
LAWNBOY 8111 Lyndale Ave. S. Bloomington, MN 55420 (800) 526-6937 www.lawnboy.com	Gold Pro10424	gasoline	2-cycle	6.5 hp	push	21"	mulch/side	1.0 - 3.0	68
	Gold Pro10552				self-propel			1.0 - 3.5	88
	Silver Series		OHV		self-propel				66 to 74
	Silver Pro Series		2-cycle		push/self-prl.				87

Features - The six-inch front wheels are two inches smaller than the rear wheels. This makes the mower easier to maneuver and trim under fences, shrubs and other hard-to-reach places. The staggered wheel makes the mower easy to maneuver and allows for close trimming. There are three points of contact with the ground for less scalping. The self-propel system ais either variable-speed or Easy-Stride (automatically goes as fast as you walk) on the Gold Pro Series. The Gold Pro series also has a three-year warranty (two-years on other series) and has a no-rust aluminum deck. An advantage of Lawn Boy models is they are lighter weight than most gasoline lawn mowers. The 2-cycle engine is self-lubricating since the oil is added to the fuel. No oil change is required and the the lubrication keeps every moving engine part continually coated with oil/gas mixture. The mowers have lightweight cast aluminum decks that won't rust. An indentation in the upper handle eliminates any pinching or discomfort of your hands while you are mowing the lawn.

MTD PRODUCTS (Yard-Man) PO Box 368022 Cleveland, OH 44136 (800) 800-7310 (330) 225-2600 www.mtdproducts.com	D465E	gasoline	OHV	6.75 hp	self-propel	21"	mulch/rear	1.5 - 3.5	105
	D449R		OHV	6.5 hp				1.0 - 3.5	103
	979L		OHV	6.75 hp					97
	S106D		L-head	6.0 hp	push	20"	mulch/side	1.5 - 4.0	87

Features - The "D" series models have "My Speed" self-propelled system that moves (must adjust lever) the mower as fast as you are walking. “Model 979L” has 6-speed rear wheel drive allowing you to mow in any condition without any problems. It has a 3-in-1 system with attachments for mulching, bagging and side discharge. The handles fold for easy storage of the mower. Some models have high wheels on the back so the mowers work great on any terrrain. A specially patented mower blade does both mulch and bag mowing applications. The easy-to-use attachments allow versatility in lawn mowing. The mowers have a single lever height adjuster for quick adjustment of the cutting height. There is minimum effort in starting the lawn mower as it is equipped with an easy start engine. Once you start the engine with one pull of the cord, each time you start it again while cutting the grass, you just have to push a button without pulling the rope cord.

SEARS, ROEBUCK & CO. 333 Beverly Rd. Hoffman Estates, IL 60179 (800) 359-2000 (708) 286-2500 www.sears.com	07137768000	gasoline	OHV	6.75 hp	self-propel	21"	mulch/rear	1.2 - 3.7	108
	07138804000		L-head	4.5 hp	push	21"		1.3 - 3.6	76
	07138881000		OHV	5.5 hp	push				103
	07137711000		OHV	6.75 hp	self-propel	21"		1.2 - 3.7	108
	07137619000	manual reel	n/a	n/a	push	18"	rear	1.0 - 3.0	31
	07137047000	electric				18"	mulch/rear/ side	1.0 - 3.5	38

Features - "Model 07137711000" features a high-vac rear bag design and foam covered handles for comfort. It has slightly larger rear wheels than front wheels for easy rolling over rough or hilly terrain. It also has ball-bearing wheels and a poly (plastic) cutting deck that will not rust. "Model 07138804000" is a push mower with a low rear bag and 10-inch rear wheels for easy pushing. The weight is only 76 pounds, so it is ideal for cutting smaller lawns without a lot of effort. Some models have a single-lever cutting height adjustment and a three-position handle that does not need any tools for adjusting. "Model 07137047000" is a very lightweight, inexpensive model with a rust-free poly cutting deck. Some of the self-propel models have variable-speed, but you have to move a lever to set the speed you desire. All Craftsman mowers have a two-year warranty.

SNAPPER INC. 535 Macon St. McDonough, GA 30253 (800) 935-2967 www.snapper.com	RP2167517BVE	gasoline	OHV	6.75 hp	self-propel	21"	mulch/rear/ side	1.2 - 3.7	88
	MRP216015BV			6.0 hp				1.2 - 3.7	84
	MR216015BV				push			1.2 - 3.7	68

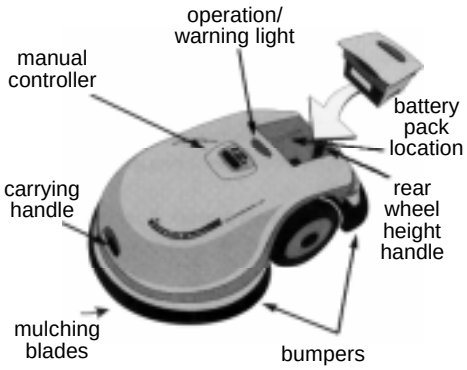
Features - All of the self-propel models have a six-speed drive transmission. They are convertible to rear or side discharge. They have folding handles for easy storage and is equipped with a 3-year limited warranty. “Model RP2167517BVE is equipped with an electric start. The front casters swivel making it very easy to manuever around trees, flower beds or other obstacles in the lawn. Acessories available include — bagging kit, side discharge chute, wide door bagging kit, commercial bagging kit, a thatcher that strips away thatch and other lawn waste from the lawn or an attachment that attaches for quick, easy leaf shredding. High-vac models are available that are not designed to mulch. The bag is mounted high for easy removal and emptying. The high-vac model numbers start with at "P".

TORO CO. 8111 Lyndale Ave. S. Bloomington, MN 55420 (800) 595-6841 www.toro.com	20038	gasoline	OHV	6.75 hp	self-propel	21"	mulch/rear	1.0 - 3.0	96
	20039								89
	20008		L-head	6.5 hp	push	22"			69

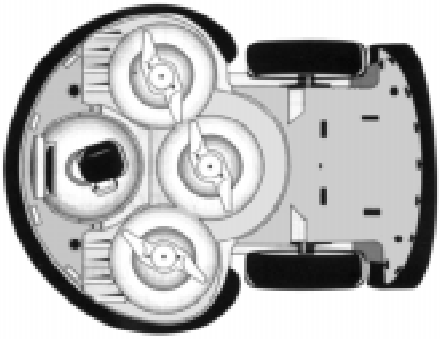
Features - Personal Pace self-propel system (used on #20038 and 20039) has mowing speeds that are infinitely adjustable to your walking pace — up to 4.0 miles per hour. Place slight pressure on the handle as you walk faster and the mower goes faster automatically. These moodels allow easy conversion from mulching to bagging whenever desired. The mowers have the “Recycler” mulching system. Special kickers deflect clippings back into the blade to be recut into tiny particles. A patented front-throw chamber removes energy-draining excess clippings, reducing power demands while assuring the blade turns at optimal speeds. Models 20038 and 20039 are part of the Super Recycler Series that have a cast alumium cutting deck and a five-year warranty. Model 20008 is part the the Recycler Series that has a steel cutting deck and a two-year warranty. There are many other models in the both these series and some have electric start and sef-propel without the Personal Pace feature. The Personal Pace is a rear wheel drive system and the other variable speed self-propel models are front wheel drive.

** It is not unusual for mower manufacturers to change engine types without changing model numbers, ** Cutting Height — Inches have been rounded off*

Robomower by Friendly Robotics



Dimensions — 35" l x 26" w x 12.5" h
Weight — 50 pounds
Charging time — 24 hours
Mowing width — 3 blades equaling 21", cuts .6" beyond the wheels
Mowing height — 6 settings at the front and 3 settings at the rear range: .75" to 3". High cut blade: 1.5" to 3". Low cut blade: .75" to 1.4"
Noise level — 85 dB
Battery pack — 2 x 12 volt sealed lead acid, maintenance free
Mowing power — comparable to 5 hp gasoline mower
Lawn size — recommended for lawns up to 5,000 square feet
Operating time — two hours on average
Maximum speed — 19.7"/second
Blade speed — 5,800 rpm



Bottom view

Auto Mower from Husqvarna

Drive — two independently driven geared wheel motors
Mowing height — height setting variable from approximately 1 1/4 to 4 inches
Cutting system — three steel pivoted blades on a rotary disc
Weight — 15.6 lbs
Length — 28.3 inches
Width — 23.6 inches
Height — 10.3 inches
Housing — ABS plastic
Lawn size — recommended for lawns up to approximately 19,000 square feet with a relatively level terrain or with sloping areas of less than 20 degrees
Safety features — lift sensor or tilt sensor will shut down the blade motor, stopping the rotation of the blades
Built-in alarm — a loud alarm is sounded if the correct code is not entered when the rear cover is lifted to reach the handle
Bumpers — when the mower bumps into any firm or solid object, the collision sensors will instruct the mower to back up or turn left or right, 50 to 175 degrees, then resumes forward movement.

A low-voltage wire is buried or stapled along the perimeter of your yard. The mower operates on a rechargeable battery. You program it for the time of day you want it to cut.

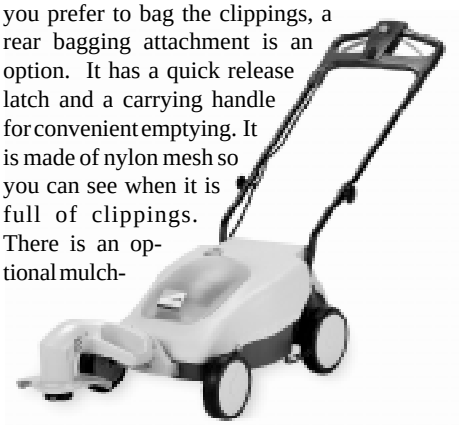
The built-in circuit board has a microprocessor. There is a boundary loop and a recharging loop that carry the low-voltage current. The mower moves around the lawn, cutting in a random pattern within the boundary wire.

When the battery is low (after approximately 1.5 hours it seeks out the recharging loop and is lead to a docking station where the battery is recharged — which takes about 1 hour. The docking station is connected to an ordinary outlet.

Neuton Cordless Mower by Country Home Products

This is a small cordless is lightweight and designed to cut lawns about one-quarter acre (100 ft. x 100 ft.). It uses a 24-volt battery that is removable to make it lighter weight for easy handling and storage. It weighs 48 pounds with the battery installed and 33 pounds without the battery.

The Neuton is delivered with a standard rear discharge setup. Clippings are not discharged very far out behind so it is not messy. If you prefer to bag the clippings, a rear bagging attachment is an option. It has a quick release latch and a carrying handle for convenient emptying. It is made of nylon mesh so you can see when it is full of clippings. There is an optional mulching kit that includes a plug for the clipping discharge chute and a special mulching blade. It takes a few minutes to install the mulching blade. This blade is designed to keep tossing the clippings up until they are chopped up into very fine pieces that become fertilizer for the lawn.



There is an optional string trimming attachment that mounts to the front of the mower. This is ideal for trimming under bushes and around other objects. It can be rotated 90 degrees so it cuts vertically for edging along a driveway or walkway. There is a switch to direct the battery power to the trimmer from the regular grass-cutting blades.

Security key — it has a key so children cannot accidentally start the mower
Battery charge indicator — there is a light on the handle to show when the battery is running low.
Handles — handles fold up for easy storage

Mulching Lawn Mowing Tips

To take full advantage of the benefits of your mulching mower, it is helpful to understand the mulching process that is taking place. The grass is initially lifted and cut by the outboard cutting portion of the blade, then forced upward into the blade tunnel. Next, the clippings are recirculated into the inward mulching portion of the blade where they are recut to form smaller clippings. Finally, the downward deflector on the blade forces the clippings to the soil level of the lawn.

Since grass clippings are 75% to 85% water, they decompose easily, leaving valuable nutrients in the soil. They also form a moisture saving layer of shade for the soil.

Keep mower blade sharp — A sharp blade provides a clean "just bagged" appearance without tearing the grass.

Mow regularly and only the top one-third of grass blades — Normal mowing height should remove only 1" to 1 1/2" of the blades of grass.

Alternate the cutting pattern each time you mow — Changing the cutting pattern avoids training the grass to grow in a certain direction ("graining") and avoids matting grass by running the wheels in the same location each time you mow. When mowing on a hill, always mow across the face of the slope. Do not mow up and down slopes.

Keep underside of lawn mower deck clean — Keeping the underside of the lawn mower deck clean provides a clean smooth surface to channel the cut grass into the mulching portion of the blade.

Do not mow your lawn when the grass is wet — Wet grass will form clumps and stick to the underside of the lawn mower deck, interfering with the proper mulching action of grass clippings.